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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Carl G. de Marcken
Serial No. : 09/431,365
Filed : November 1, 1999
Title : METHOD FOR GENERATING A DIVERSE SET OF TRAVEL OPTIONS

Art Unit : 2166
Examiner : Rachel L. Porter

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Applicant responds to the Examiner's Answer as follows:

The examiner takes issue with Appellant's argument "that the passages cited from the deMarcken do not address the claim limitations because the passages discuss diversity or a plurality of 'travel options' instead of the recited 'travel requirements.'" [Examiner's Answer page 11]. The examiner does not give any cite back to Appellant's Appeal Brief, however. Appellant asserts that it did not argue that de Marcken discusses diversity in the context of travel options instead of travel requirements.

The examiner argues that Appellant does not point out and the Examiner was unable to find definitions in the claim language or in the specification to clarify the distinction between the terms "travel option" and "travel requirement." The examiner urges that it is therefore reasonable to "interpret a 'travel option' in the instant invention ... from being a 'travel requirement' in the prior art, and vice versa, as Appellant has provided no definitions within the specification or claims to narrow the interpretations of these terms." Similarly, the term diverse in the present claims has been given the broadest reasonable interpretation. The Examiner understands the term "diverse" to include any difference in the travel options of the system or input by the user (i.e.

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time that information was obtained, selected carrier that provides a service, points of origin or destination, numbers of intermediary stops). [Examiner's Answer page 11].

Appellant urges the examiner to re-read Appellant's specification, Appeal Brief and previous office actions, in which these features were clearly pointed out.

For example, in Appellant's specification, Appellant describes: "travel options that a travel planning system produces is much smaller than the total set that could possibly satisfy a traveller's (sic) request. For example, a CRS may respond to a round-trip query specified by a departure city and date and a return city and date with a set of 10 or so possible flight and fare combinations, even though there may be thousands of combinations of flights that satisfy the request." [Specification Page 1, line 10]. de Marcken refers to "travel options" in a consistent manner sometimes also referring to them as "travel solutions."

In Appellant's Appeal Brief Appellant stated:

deMarcken does not describe in the above quoted passage or elsewhere, any of the recited features of the requirements generator. Rather, in above passage deMarcken et al. discusses a tool to extract or enumerate pricing solutions (e.g., travel options) from a compact representation of the travel options, (e.g., the pricing graph). While deMarcken indeed describes the pricing graph representation of travel options, which is included in claim 1, deMarcken does not disclose or suggest the concept of diverse travel options nor the requirements generator to generate a set of diverse travel requirements. [Appellant's Brief page 9].

In Appellant's specification, Appellant also describes travel requirements and does so in a manner that makes those terms mutually exclusive. Thus, for example, Appellant describes:

Referring to FIG. 8, a diversity process 350 for selecting a diverse set of travel options from a larger set of candidate travel options is shown. The diversity process includes generating 352 an ordered list of travel requirements that represent conditions possibly required for a travel option to be the best travel option to generate. The diversity process 350 selects 354 for each travel requirement the one or more travel options that satisfy the requirement preferably by choosing those travel options that best

satisfy one or more travel preference functions that can be used to order travel options.

Appellant further describes that:

For example, the air travel planning system generates the following 10 travel requirements for a set of travel options that each include one or more flights.

1. <none>
2. all flights on American Airlines.
3. all flights on United Airlines.
4. non-stop.
5. departing in morning.
6. departing in evening.
7. non-stop on American Airlines.
8. non-stop on United Airlines.
9. non-stop in morning.
10. non-stop in evening. [Specification pages 39-40]

Appellant clearly uses a diversity process to generate an ordered list of travel requirements that represent conditions possibly required for a travel option to be the best travel option to generate. Therefore, travel requirements and travel options are not interchangeable, and irrespective of what meaning those terms are ascribed with by the examiner, the examiner needs to find the different functionality or structure of those terms in the prior art to apply to the claims, which she has failed to do.

Appellant agrees with the examiner that: the "Examiner must give claim language its broadest reasonable interpretation and apply art accordingly. Appellant asserts that the examiner does not reasonably interpret the claims in light of the specification.

Rather, the examiner takes an unsupportable and unreasonable interpretation of Appellant's claims. For instance, in construing "travel option" to read on or be interchangeable with "travel requirement," the examiner ignores the guidance given by the Federal Circuit in *In re Morris* 127 F.3d 1048, 44 U.S.P.Q.2d 1023, 1027 (Fed. Cir. 1997). According to *Morris* the Office is entitled to construe claim terms using their "broadest reasonable meaning." The court provided guidance on what "reasonable" means:

Since it would be unreasonable for the PTO to ignore any interpretive guidance afforded by the applicant's written description, either phrasing connotes the same notion: as an initial matter, the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification

According to Morris, the examiner must apply the broadest reasonable meaning "in their ordinary usage as they would be understood by one of ordinary skill in the art." The examiner has not provided any basis upon which one of ordinary skill in the art would construe "travel option" to read on or be interchangeable with "travel requirement." Indeed the main reference relied on by the examiner does not address travel requirements and uses travel options in the same manner, as Appellant does here. Moreover, in Morris, the specification lacked any text to guide the examiner in construing the disputed claim term. Based on the absence of any such text, the Court stated that the examiner's interpretation was reasonable:

Absent an express definition in their specification, the fact that appellants can point to definitions or usages that conform to their interpretation does not make the PTO's definition unreasonable when the PTO can point to other sources that support its interpretation.

The examiner is invited to re-read Appellant's specification. In the present application, the written description discusses the distinctions between "travel option" and "travel requirement," in great detail and there is no ambiguity, as there was in Morris. Nevertheless, by conflating "travel option" with "travel requirement," the examiner appears to be ignoring Appellant's specification in contravention to Morris.

Moreover, the present application is unlike the situation in *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993) where the court was asked to import limitations from the specification into the claims.

In *Van Geuns*, the specification disclosed a magnet assembly used for NMR. The claim, however, recited a magnet assembly that provided a uniform magnetic field, with no mention of NMR. The cited reference disclosed a magnet assembly that generated a relatively uniform field. *Van Geuns* is inapplicable to the present case, because the claim elements "travel option" and "travel requirement," are expressly recited in the specification and positively recited in the claims. This is not a case in which the claims do not recite one or both of these features and the examiner is being asked to import them from the specification as limitations into the claims. Instead, this is a case in which the claim recites "travel option" and "travel requirement" and the specification sets forth what that feature is. It is not improper of Appellant to ask that the examiner ascribe the meaning to those terms as used in Appellant's specification and the main reference applied by the examiner.

As for "diverse," Appellant clearly sets forth the meaning of that term in the Summary of the Invention section of Appellant's specification and in Appellant's claims. For instance, Appellant discloses that:

If a travel planning system is limited in the number of options it can generate, it may be desirable that the travel planning system consider or generate a diverse set of travel options. The planning system can maximize its chance of generating a good option by enforcing diversity in the set of options generated. [Specification page 1, line 30].

Appellant points out the desirability of providing diversity in the answers (travel options) returned in Appellant's specification:

The diversity process in the air travel planning system generates answers on several different airlines, thus the system is capable of satisfying a greater range of travellers. (sic) Similarly, an air travel planning system that queries airlines about whether there are seats available on a limited number of flights may wish to choose flights at a diversity of flight times, in case flights at particular times of day are all full. [Specification page 2, line 1].

Appellant contends that the examiner has not ascribed a meaning to the term "diverse" that is based on Appellant's specification or the prior art. Thus, while, "The Examiner understands the term "diverse" to include any difference in the travel options of the system or input by the user (i.e. time that information was obtained, selected carrier that provides a service, points of origin or destination, numbers of intermediary stops)." Appellant challenges the examiner to point out the basis for this statement. It is clearly not derived from the art of record, since the art of record does not address this problem.

Accordingly, Appellant contends that the examiner's construction of de Marcken is misplaced and that the rejection must be reversed.

The examiner also takes issue with Appellant's attack of the motivation to combine de Marcken and the secondary reference Karch. The examiner states:

(B) Appellant argues that DeMarcken and Karch combination is improper because there is no motivation to combine the two references and Karch is non-analogous to the travel search arts.

In response to Appellant's argument that Karch is nonanalogous art, it has been held that a prior art reference must either be in the field of Appellant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the Appellant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, the Karch reference has been used to establish the fact that generating rule-based templates (to process vast amounts of information) is old and well known in the computer arts. Moreover, the Examiner has cited motivation to combine the references directly from the secondary reference, as explained in the art rejections provided in the Final Rejection mailed 7/15/05 and reproduced in the present Examiner's Answer.

Appellant did not offer a non-analogous art argument in attacking the motivation to combine Karch with de Marcken. Appellant's argument was directed to the fact that Karch did not provide any of the missing teachings in de Marcken. That is, Karch did not teach the travel requirements or recognize the desirability of diversity in travel options. Appellant concluded that the examiner did not provided a proper motivation to combine the teachings of de Marcken and Karch because the motivation fails to show the need or desirability to add the template feature, as claimed to de Marcken. The examiner failed to show to for what purpose the template teachings of Karch would be put to in de Marcken. The examiner's motivation: "As suggested by Karch, one would have been motivated to include this feature to provide an efficient rules

system that can learn and manipulate information, *** ." begged the question why would one of ordinary skill be motivated to add an efficient rules system It was on that basis that Appellant contended that the examiner failed to set forth a convincing line of reasoning to suggest the desirability of modifying de Marcken with Karch.

Regarding claim 6, the examiner argues that:

(D) Appellant argues that DeMarcken does not disclose system wherein at least one of the travel requirements within the plurality is not a user-entered requirement.

In response, the Appellant argues that the passage cited by the Examiner to address this limitation is improper because it does not meet the "definition" provided the Appellant in claim 1. However, the Examiner respectfully submits that claim 1 provides no such definition. In the absence of such a definition, the Examiner has given the claim language the broadest reasonable interpretation and applied art accordingly. As such the Examiner interprets the industry standard database information used by the DeMarcken system (col. 4, lines 4-14 of DeMarcken), as addressing the claim limitation.

Claim 6 includes the feature that at least one of the diverse travel requirements within the plurality is not a user entered travel requirement. In contrast to how the examiner interprets Appellant's argument in the main brief, Appellant stated:

The examiner contends that "DeMarcken '521 teaches the travel planning system of claim 1 wherein at least one of the travel requirements within the plurality is not a user entered travel requirement at (col. 4, lines 1-14). While, Appellant agrees that deMarcken at (col. 4, lines 1-14) teaches something that is not user defined, e.g., the industry defined databases of travel information; in the context of claim 6, this teaching is irrelevant. The industry defined databases are not travel requirements, as defined in Appellant's claim 1. Again, as above, Karch does not provide any of the missing teachings in deMarcken.

Although Appellant may have more properly stated: "recited," rather than "defined" in the above paragraph, Appellant's claim 1 does describe travel requirements: "as diverse travel requirements from a requirements generator module and used by a selection module to output a set of diverse travel options that satisfy the travel requirements."

In paragraphs (F) and (G) the examiner argues that Appellant's arguments were "against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)."

Appellant concedes that for claim 53, the argument is short, but that was for the benefit of the Board, so as not to rehash previous arguments. The arguments attacked the combined teachings of the references and reading of Appellant's Appeal Brief clearly sets forth the basis upon which Appellant regards the combination of references as failing to suggest the claimed features.

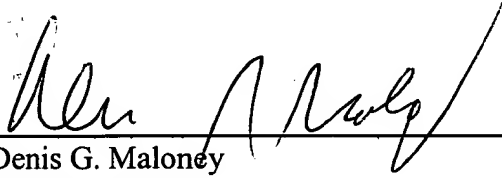
For these reasons, and the reasons stated in the Appeal Brief, Applicant submits that the final rejection should be reversed.

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Respectfully submitted,

Date: _____

5/2/06



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